

ISOETES MELANOPODA IN SABINE PARISH, LOUISIANA

BY

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On May 2, 1980 a collection of Isoetes melanopoda Gay and Dur. was made from Sabine Parish, Louisiana. This is the first collection from the state since those reported by Brooks and Maples from Calcasieu Parish in 1971. It also represents the northernmost collection from Louisiana. Although Thieret (1980) indicated that Isoetes melanopoda is known from four parishes---Calcasieu, Rapides, Avoyelles, and East Baton Rouge---the last three represent old collections and several attempts over the past ten years by the junior author and others have failed to locate any living populations of the plants in these parishes.

The Sabine Parish collection was made by the senior author while collecting for a survey of the vascular plants of the parish for his M.S. thesis project at Northeast Louisiana University. One plant, Carroll 1344, was collected mixed with other plants from a low area near Bayou San Patricio north of Noble. A visit to the site by the authors on June 7, 1980 established the presence of a large population of Isoetes melanopoda (Thomas 71436 and Carroll 1443).

The site is flat and flooded during the spring but is dry during the summer and fall. The Isoetes grows in a low area with clay soil but only 30-40 feet away on sandy soil no plants occur although the elevation is only six inches higher. Pinus taeda, Vaccinium arboreum, and Quercus stellata var. stellata occur on the sandy elevated areas but are absent from the low areas where Ulmus crassifolia, Crataegus viridis, and Quercus stellata var. mississippiensis occur.

Brown and Correll (1942) described the soils on which Isoetes melanopoda grows as moist prairie soils. They said that: "The species is especially abundant around the marais ponds in these soils. Most of these...soils consist of a top layer 6-9 inches, occasionally as much as 18 inches thick, over an impervious layer 4-8 inches thick, which in turn is

usually underlain by a less compact soil containing calcareous concretions." A soil sample taken by the senior author from the Sabine Parish site and analyzed by the Northeast Louisiana University Soil Analysis Lab shows that the soil at this site is high in percentage of calcium as noted in the following table.

TABLE I
CALCIUM CONTENT OF ISOETES SOIL SAMPLE

Depth	Ph	Parts Ca per million	Percentage saturation of Ca
0-6"	6.7	820	43.2
18-24"	9.0	1527	37.9
30-36"	8.8	11132	31.4

This location was inundated with about 5-7 inches of water when the first collection was made in May, 1980. By June of 1980 no standing water was present but the soil was still moist. In August, 1980 the senior author visited the area and the soil was very dry and no evidence of Isoetes could be found. When the senior author visited the site in March, 1981 to take a soil sample, it was again inundated and the Isoetes was again abundant (Carroll 2499).

Literature Cited

- Brooks, J. H. and R. S. Maples. 1971. A recent find of Isoetes in Louisiana. *American Fern Journal* 61: 186.
- Brown, C. A. and D. S. Correll. 1942. *Ferns and Fern Allies of Louisiana*. Louisiana State University Press, Baton Rouge. 186 pp.
- Thieret, J. W. 1980. *Louisiana Ferns and Fern Allies*. Lafayette Natural History Museum, Lafayette, La. 124 pp.